MANAGEMENT PLAN FOR CHINOOK AND COHO SALMON

IN THE SOUTHEAST ALASKA/YAKUTAT SUMMER TROLL FISHERY, 1993

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FOREWORD

This management plan summarizes the approach the Alaska Department of Fish and Game (department) will employ to manage the Southeast Alaska/Yakutat commercial salmon summer troll fishery for chinook and coho salmon during the 1993 season. A companion document, the "Alaska Commercial Salmon Trolling Regulatory Guide, Summer 1993", provides a detailed description of open areas, legal gear and other regulations.

INTRODUCTION

The Southeast Alaska troll fishery occurs in State of Alaska and Federal Exclusive Economic Zone (EEZ) waters east of Cape Suckling. The fishery is managed according to regulations promulgated by the Alaska Board of Fisheries (Board), the North Pacific Fishery Management Council (Council), and the U.S./Canada Pacific Salmon Commission (PSC). Inseason management is conducted by the department under emergency order authority. In 1993, additional actions are necessary due to the listing of the Snake River Fall Chinook salmon as threatened under the Endangered Species Act. These actions are in accordance with an Incidental Take Permit (ITP) issued in conjunction with a biological opinion by the National Marine Fisheries Service (NMFS).

This management plan discusses the management objectives and methods used to achieve Board, Council, and PSC policies and goals for the commercial summer troll fishery. This plan covers only commercial trolling for chinook and coho salmon. Other species caught and retained by trollers are considered incidental.

1993 SUMMER SEASON DATES

1. Chinook Salmon Experimental and Terminal Season:

   The Carroll Inlet terminal troll fishery will begin on May 18. Several experimental fisheries will begin on May 25, with all experimental fisheries open by June 7.

2. Chinook Salmon Hatchery Access Season:

This fishery was canceled to comply with the ITP.

3. General Summer Season:

July 1 through September 20. Once the chinook salmon harvest ceiling is reached, chinook cannot be retained.

MANAGEMENT APPROACH

Chinook Salmon

The majority of the chinook salmon harvested in the Alaska troll fishery are produced from wild and hatchery stocks originating in Canada and the Pacific Northwest. As a result, the Southeast Alaska chinook salmon harvest is managed on an annual, all-gear catch ceiling established by the United States and Canada through the Pacific Salmon Commission. In addition to the catch ceiling, provisions of the Pacific Salmon Treaty (PST) administered by the PSC, provide for an additional harvest of chinook salmon that have been produced in Alaskan hatcheries (add-on). The add-on is equal to the total number of hatchery chinook caught, minus the pre-Treaty production of chinook salmon (5,000), and a risk adjustment factor (2,900 fish projected for 1993). A 15-year natural chinook stock rebuilding program for Southeast Alaska was initiated in 1981.

Management Objectives

1. Achieve the allowable chinook salmon harvest established by the PST.

2. Maximize the harvest of Alaska hatchery-produced chinook salmon.

3. Continue the Southeast Alaska and coastwide natural chinook salmon stock rebuilding programs.

4. Achieve catch allocations among user groups as mandated by the Board.

5. Minimize the incidental mortality of chinook salmon to the extent practicable.

6. Comply with the conditions of the ITP.

Management Methods

Time and area closures are the primary management measures employed to rebuild the natural Southeast Alaska chinook salmon stocks. All chinook salmon stocks in Southeast Alaska are "spring type" spawners (i.e., mature chinook salmon that return to their natal streams beginning in May and June). Troll openings do not occur until late May and early June when experimental, terminal, hatchery access (except in 1993), and special harvest area openings are established to harvest Alaska hatchery-produced chinook salmon. These fisheries are closely monitored to evaluate their effectiveness.

Historically, the majority of chinook salmon are taken during the general summer opening when the majority of waters, including the outside waters, are open to trolling. Determining when the general summer season for chinook salmon must close to stay within the allowable harvest is one of the major functions of the department troll management plan. Tabulating the up-to-date troll catch is difficult due to the large number of fish tickets and the difficulty of receiving them from remote areas in a timely manner. Therefore, a Fisheries Performance Data program (FPD), consisting of confidential interviews with skippers as they deliver catches, is used to estimate daily catch rates in six areas (Figure 1). The total number of days the fishery will be open for chinook salmon is calculated by dividing the summer season harvest goal by the estimated daily catch by the troll fleet. In 1992, because of the low number of chinook salmon available for harvest, the department announced a fixed number of days beginning July 1.

With approximately 135,000 chinook salmon expected to be available for harvest in the general summer opening on July 1, 1993, and with abundance expected to be high, the department may again choose to announce an opening for a fixed number of days. Any shortage resulting from this fixed opening could be made up later in the season. An announcement will be made approximately June 21 concerning the specific management actions for the summer season.

The hatchery add-on is calculated inseason through the FPD and port sampling programs. Chinook salmon are examined by department sampling personnel for the presence of coded-wire tags (CWTs). The heads containing CWTs are sent to Juneau for decoding. The number of Alaskan hatchery fish is calculated by expanding the number of Alaskan hatchery-produced chinook in the sampled catch, by the total catch.

After the chinook salmon quota has been reached, a regionwide closure of five days will take place in order to comply with the ITP. When the fishery reopens, areas of known high concentrations of chinook will be closed. In addition, the department urges fishermen to use methods for release that minimize injury to the fish.

Projected 1993 Chinook Salmon Harvests

No Annex was signed in 1993; however, the chinook salmon fisheries will be managed for a ceiling of 263,000 (not including Alaska hatchery salmon). In addition to this "base catch", Alaskan hatcheries are expected to contribute approximately 55,900. From the preseason estimate of the total Alaskan hatchery contribution, the pre-Treaty annual catch of hatchery chinook salmon (5,000) and a projected risk adjustment factor (2,900) is subtracted to get an estimate of the total allowable hatchery add-on of 48,000. Adding the projected Alaskan hatchery add-on (48,000) to the PST catch ceiling of 263,000, gives a total 1993 projected all-gear catch ceiling of 311,000 chinook salmon. The PST recognizes that achievement of a precise quota is difficult and thus allows for a cumulative quota overage beginning in 1987 of $\pm$7.5% (19,725 fish) relative to the 263,000 fish catch ceiling. Currently, there is an underage of approximately 11,000 fish. These fish will be carried over to the 1994 season as the ITP allows only for a harvest of 263,000 chinook salmon.

It is important to recognize that the preseason Alaska hatchery add-on figure is only a projection that is based on the approximate proportions of average hatchery harvests by gear type. The actual hatchery add-on will be determined inseason, and finalized postseason, from CWT estimates. The Board has not established levels of allocation for Alaska hatchery chinook salmon.

At the March 1992 Board meeting, sharing percentages were established for the recreational and commercial troll chinook salmon fisheries (not including Alaska hatchery chinook). The commercial troll fishery was allocated 83% of the PSC quota after subtracting 20,000 fish for the net fisheries. The recreational fishery was allocated the remaining 17%. In addition, each group is now responsible for proportionally sharing the 5,000 pre-Treaty chinook harvest and risk adjustment factors.

Preliminary Total Troll Fishery Catch Projections

Troll Chinook Catches in Thousands

Fishery	(Base Catch Plus Hatchery Add-on)
Winter Fishery (October 1992 - April 1993)	62.1
June Terminal and Experimental Fisheries	26.2
Summer Season	134.4
Total Troll	222.7

Chilkat Inlet Closure

The 1993 summer troll fishing season for portions of Chilkat Inlet will be delayed from July 1 until July 15. This closure is needed to provide additional protection for mature chinook salmon returning to spawn in the Chilkat River drainage. The troll closure corresponds to a similar closure for the drift gillnet and recreational fisheries, and includes all waters of Chilkat Inlet north of the latitude of Seduction Point.

Coho Salmon

Most coho salmon harvested in the troll fishery are believed to be of Alaskan origin. They spawn in approximately 2,000 streams in Southeast Alaska during the fall and early winter months. Coho salmon catches were depressed in the mid to late 1970s but improved through the 1980s. Catches in the 1990s have been excellent. While information on the status of specific coho stocks is limited, some escapement and exploitation patterns based on coded-wire tagging studies have raised concerns for conservation, especially for stocks subject to harvest by multiple fisheries.

Troll fishery catches of coho salmon in outer coastal areas generally peak during mid-July to mid-August. Catches in inside fisheries generally peak during late August to mid-September. Most coho migrate into spawning streams between late September and mid-October.

Early in the season, coho stocks returning to southern Southeast Alaska are harvested by the troll fishery in northern and central outside areas where they intermingle with coho bound for northern and central areas of the region. Lack of a general coho stock identification technique prevents assessment of run strength of individual stock groups contributing to these early-season mixed stock fisheries. Thus, by the time information on run strength of individual stock groups becomes available later in the season, overharvest of weaker stock groups may have already occurred.

Southeast Alaska hatchery coho production first became significant in 1980. The contribution of hatchery coho salmon since then has varied from 0.4% of the total troll catch in 1980, 13.0% in 1986, 5.5% in 1988, and 22.3% in 1991. Smolt releases from State hatcheries have declined in recent years, however, the recent five year average is 14.8%.

Management Objectives and Methods

1. Provide adequate escapement of coho salmon by area, to ensure sustainable populations.

2. Provide maximum opportunities for harvest of coho salmon consistent with conservation objectives.

3. Manage the coho fisheries to achieve allocations consistent with Board of Fisheries regulations.

As with chinook salmon, the department's primary program for inseason assessment of catch rates is dockside interviews of vessel skippers. Catches by the net fisheries are obtained from fish tickets, while the recreational catch is estimated from a creel census conducted by the Sport Fish Division. An assessment of run strength using troll catch per unit of effort (CPUE) data from the FPD program occurs in mid to late-July. Information available on individual coho indicator stocks will also be considered in management actions.

Projected total season troll coho harvests will be used as a relative index of total run size. Analysis of the FPD program has shown that the cumulative areawide catch per day through Statistical Week 29 (average week ending date is July 19) is a good predictor of the total troll and all-gear coho catch (Figure 3). If the projected overall run size is less than 1,120,000, the department will implement a 7 to 14 day conservation closure beginning sometime in late July. In 1993, the department will make this projection during the week beginning July 20. The department will also closely monitor the projected total catch of wild coho salmon (Figure 4.)

The department will continue to closely monitor all coho fisheries after this period to determine if the number of coho salmon reaching inside areas will be adequate to provide for spawning requirements, given normal or even restricted inside fisheries. The primary abundance indicators for this assessment consist of relative harvest levels by all fisheries and, in particular, CPUE in inside drift gillnet and sport fisheries compared to 1971-80 levels.

Cumulative catch per day will be monitored in each of the six FPD areas (Figure 1) through August to assess run strength in each of the areas. Data will be compared with catches and CPUE within these areas and, if necessary, the department will implement area-specific closures.

Allocation Actions

The Board has established long term allocation goals for the coho harvest by each commercial gear type. Target percentages established by the Board are 61% for troll, 19% for purse seine, 13% for drift gillnet, and 7% for set gillnet. The Board specifically stated that subsistence, personal use, and recreational harvest of coho salmon are not affected by the established allocations between commercial gear types. The Board also stated that: "These percentages are guidelines only and may vary from season to season given natural fluctuations in salmon abundance and distribution and the limitations of fisheries management. It is, however, the Board's intent that these allocation guidelines be met as closely as

possible over the long term. It is not the Board's intent for the department to disrupt any of the traditional commercial fisheries upon which this historical allocation is founded. The department may, however, make inseason adjustments to attempt to achieve these long term allocation guidelines." In 1993 due to the five day closure, the department will monitor the allocation projection very closely and will attempt to achieve a 61% allocation for the troll fleet. The department will, however, implement applicable, existing regulations. These regulations are:

1. A 10-day regionwide troll closure is required during the coho season to address allocations between outer coastal fisheries and inside water fisheries if the department determines that the proportional share of coho salmon harvest by the troll fishery is larger than that of inside gillnet and recreational fisheries compared to the 1971-80 levels. Primary inside fishery indicators for this assessment are overall coho salmon harvests and CPUE in the Tree Point, Prince of Wales, Taku/Snettisham, and the Lynn Canal drift gillnet fisheries, and the Juneau marine sport fishery.

2. An 8-day on, 6-day off troll fishing schedule is required after mid-July for the upper portion of Chatham Strait (Section 12-B) and Lynn Canal (District 15); and

3. The troll fishing schedule in portions of State waters off Yakutat beginning early August, is keyed to weekly fishing periods in the set gillnet fisheries.

If a regionwide troll closure is implemented to conserve coho salmon during late July or early August, the likelihood of a closure during mid-August to meet the allocation criteria will be reduced. Any potential transfer of coho harvest to inside fisheries resulting from an early closure, if implemented, will be reflected in inside fishery performance indicators used for comparison against the allocation criteria.

Sitka Area Coho Closure

The Sitka area was closed to trolling beginning September 1 in 1990 and 1991 to provide additional escapement to local streams. In 1992, a September 1 closure was scheduled; however, the returns appeared to be adequate and the closure was not implemented. The department will be closely monitoring returns to the area in 1993.

Tentative 1993 Coho Season Schedule

The following is a generalized timetable for coho salmon management. It is emphasized that some modifications to this schedule may be required.

Dates	Expected Regulatory Actions
June 15-29	Beginning June 15, coho harvested incidentally during experimental troll fisheries may be retained;
July 1	Established regulatory opening date of 1993 general summer troll season for all species; the troll chinook season will close when the guideline harvest level has been reached;
Early July	A 5 day closure to comply with the ITP following the chinook salmon general opening;
Late July/early Aug.	Potential 7 to 14 day regionwide closure if projected run size is less than 1,120,000; the projected total season commercial harvest will be used as index of run size;
Mid to late August	A regionwide closure of approximately 10 days will be implemented if required for either coho conservation or allocation based on assessment of stock and fishery performance data relative to Board-established criteria. If a regionwide conservation closure has occurred during late July, the likelihood of a closure being implemented for allocation at this time will be reduced;
Late Aug. to Sept. 20	Coho conservation measures implemented regionwide or by area, as required, to protect weak coho stocks;
Sept. 20	Established regulatory closing date of 1993 general summer troll season.

Fishermen participating in the troll fishery are encouraged to review the 1993 Troll Fishery Regulatory Guide.

The widespread and complex nature of the troll fishery necessitates a closely coordinated management program. Inseason management is accomplished through a team led by the Southeast Regional Management Biologist and includes the Region's Troll Fishery Management Biologist, and the six Area

Management Biologists. Names and work locations of people to contact concerning commercial troll fishery management are listed at the end of this management plan.

FISHERY CONTACTS

The following are Commercial Fisheries Division contacts regarding this management plan:

Dave Gaudet
Regional Troll Biologist
P. O. Box 240020
Douglas, Alaska 99824-0020
(907) 465-4250

Patti Skannes
Assistant Troll Biologist
304 Lake Street, #103
Sitka, Alaska 99835
(907) 747-6688

Scott Marshall
Regional Supervisor
P. O. Box 240020
Douglas, Alaska 99824-0020
(907) 465-4250

Doug Mecum
Regional Management Biologist
P. O. Box 240020
Douglas, Alaska 99824-0020
(907) 465-4250

William Bergmann
Petersburg Area Management Biologist
P. O. Box 667
Petersburg, AK 99833
(907) 772-3801

Bob DeJong
Sitka Area Management Biologist
304 Lake Street, # 103
Sitka, AK 99835-7653
(907) 747-6688

Don Ingledue
Juneau Area Management Biologist
P. O. Box 240020
Douglas, Alaska 99824-0020
(907) 465-4250

Ray Staska
Haines Area Management Biologist
P. O. Box 431
Haines, Alaska 99827-0431
(907) 766-2830

Phil Doherty
Ketchikan Area Management Biologist
2030 Sea Level Drive, Suite, 205
Ketchikan, AK 99901
(907) 225-5195

FISHERY CONTACTS (Continued)

Randy Timothy Wrangell Assistant Area Biologist	P. O. Box 200 Wrangell, Alaska 99929-0200 (907) 874-3822
Keith Weiland Yakutat Area Management Biologist	P. O. Box 49 Yakutat, Alaska 99689-0049 (907) 784-3255

The following telephone numbers may be called during the troll fishing season to obtain recorded announcements concerning areas open to trolling.

Ketchikan - (907) 225-6870
Sitka - (907) 747-5022
Petersburg - (907) 772-3700
Juneau - (907) 586-3505

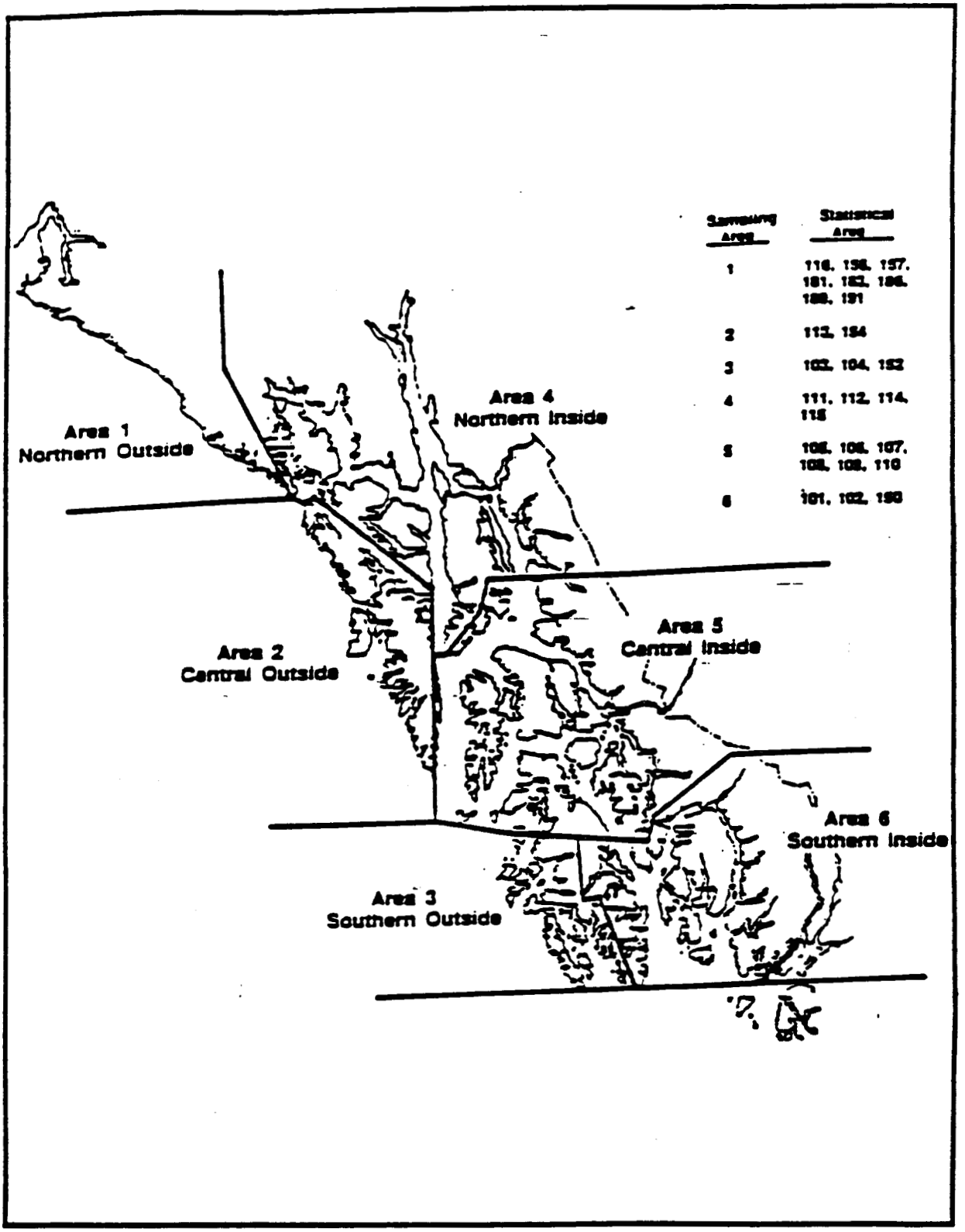

Figure 1. Fisheries Performance Data Program data collection areas in Southeast Alaska.

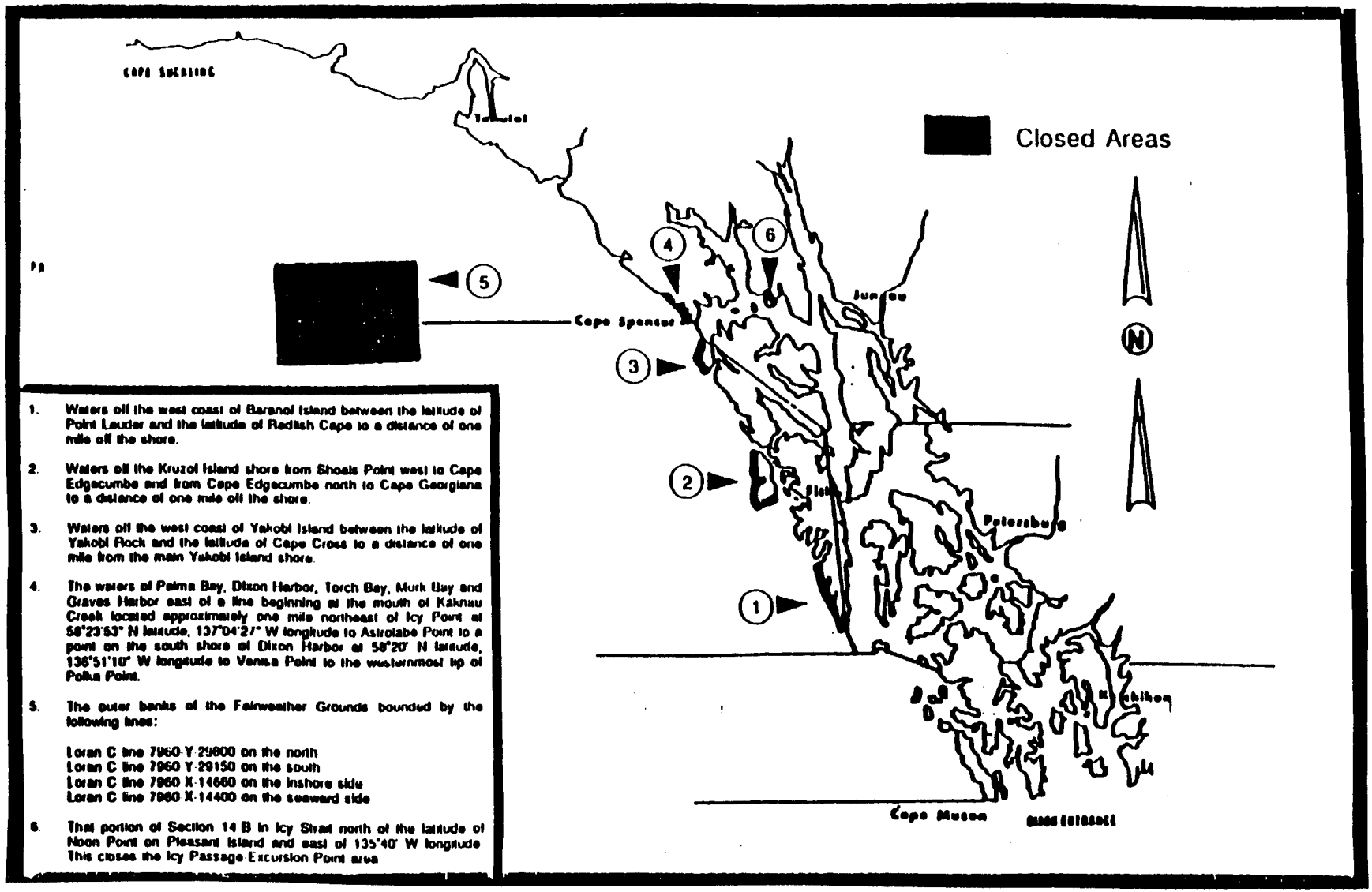

Figure 2. Southeast Alaska areas expected to be closed to trolling for all species during chinook non-retention periods of the 1993 Southeast Alaska summer troll season.

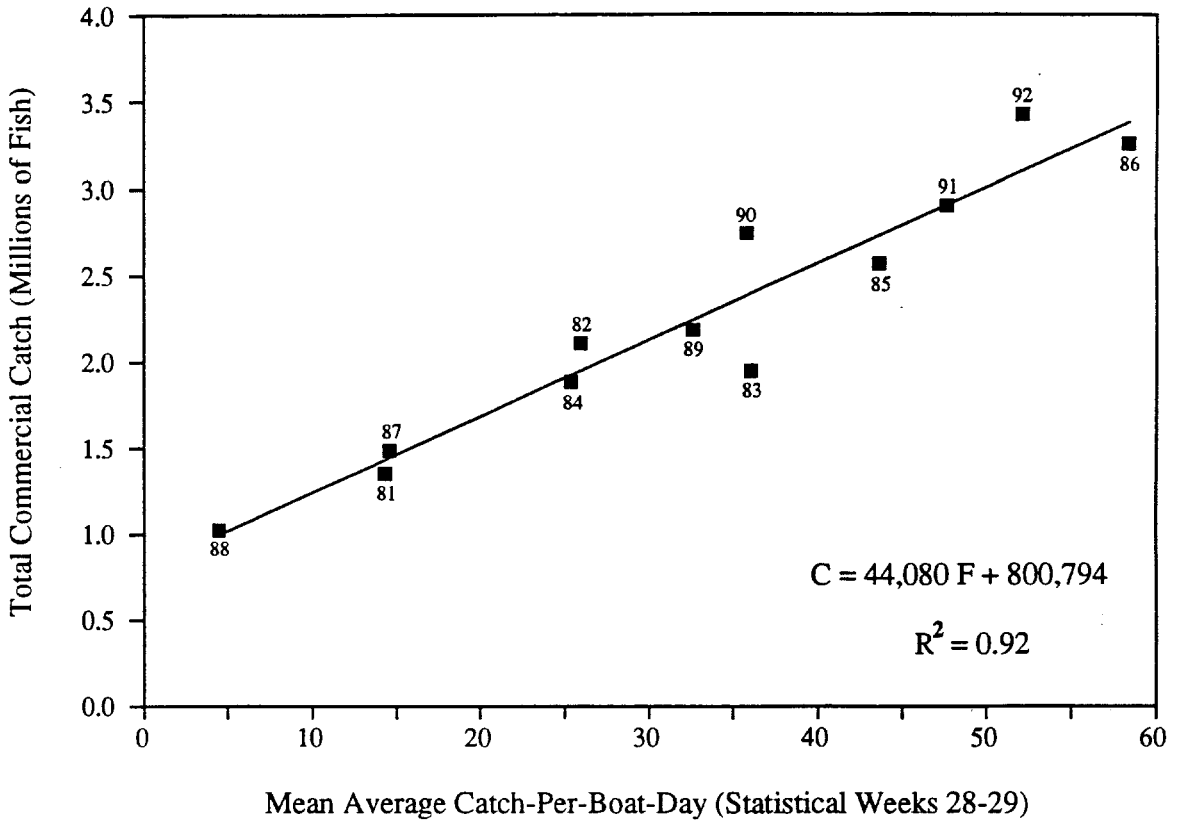

Figure 3. Inseason model used to predict the total Southeast Alaska commercial coho salmon catch in 1993.[1/]

[1/] C = Region total commercial coho salmon catch prediction (excluding hatchery cost recovery). F = Troll Fishery cumulative catch-per-boat-day for statistical weeks 28-29 (July 4-17). F is calculated from fishery performance data (FPD) by adding the average daily catch rate for boats that land in week 28 (July 4-10) and the average daily catch rate for boats that land in week 29 (July 11-17).

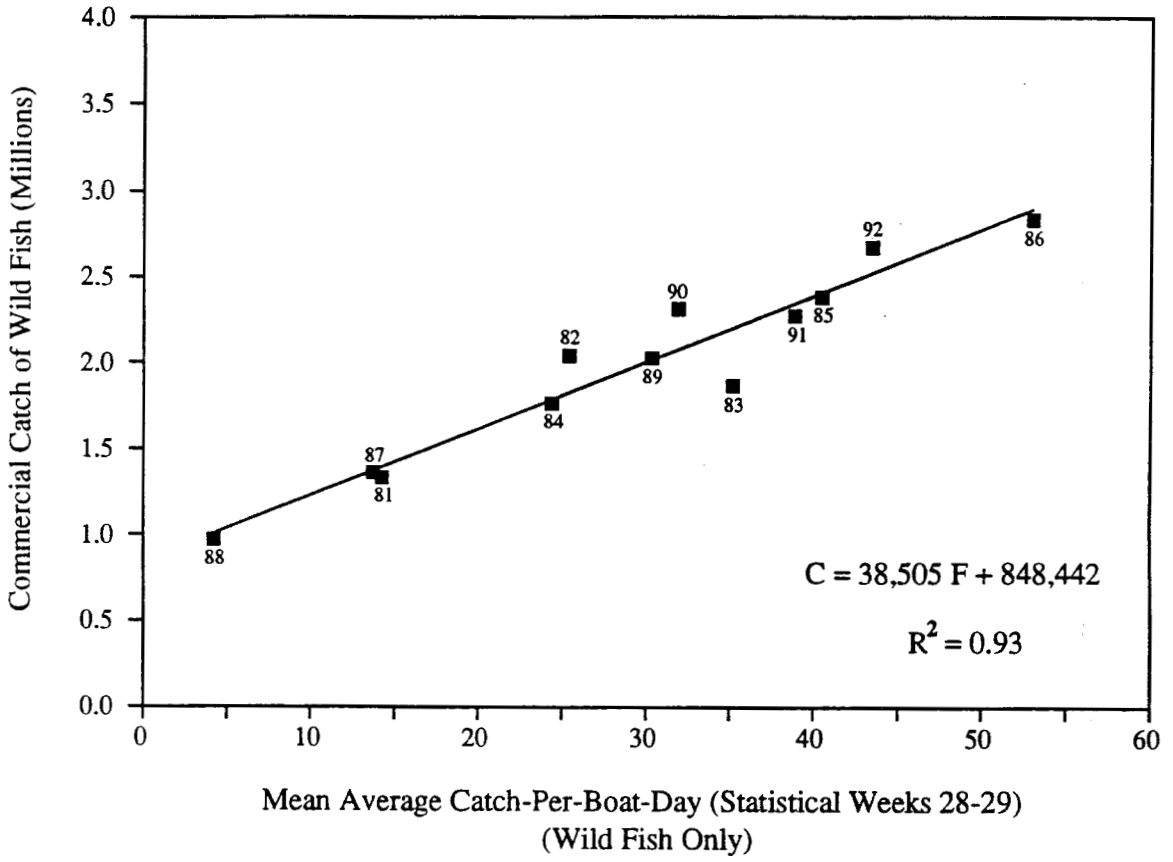

Figure 4. Inseason model to be used to predict the total Southeast Alaska commercial catch of wild coho salmon in 1993.[1]

[1]C = Region total commercial wild coho salmon catch prediction (excluding hatchery cost recovery). F = Troll fishery mean average catch-per-boat-day for statistical weeks 28-29 (July 4-17). F is calculated from fishery performance data (FPD) by averaging the average daily catch rate for boats that land in week 28 (July 4-10) and the average daily catch rate for boats that land in week 29 (July 11-17). The estimated harvest of hatchery fish is estimated from coded-wire tag recoveries and subtracted from the catch rates.

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